

IN THE CLAIMS:

Cancel claims: 7, 9, 17 and 20.

Rewrite the pending claims as follows:

1. (Currently Amended) An error rate counting system for providing information on the periodicity of errors occurring in an optical compact disk system used for reading data from an optical disk media, comprising:

a demultiplexer to receive a stream of multiplexed error signals and output a stream of demultiplexed error signals;

an error detector to identify the occurrence of at least one error type in [[a]] the stream of multiplexed demultiplexed error signals;

at least one error rate counter corresponding to the at least one error type, the at least one error rate counter incremented responsive to the occurrence of at least one error type and upon the presence of a first clocking signal; and

at least one error rate count register coupled to the at least one error rate counter, the at least one error rate count register generating an average error rate upon the occurrence of a second clocking signal, the average error rate being proportional to a timing characteristic of the second clocking signal;

at least one comparator coupled to the at least one error rate count register, the at least one comparator performing a comparison and initiating a first remedial action when the average error rate is greater than zero but does not exceed a predetermined threshold rate value, and initiating a second remedial action when the average error rate exceeds the predetermined threshold rate value; wherein the first remedial action and second remedial action both attempt to reduce future data reading errors.

2. (Original) The error rate counting system as in claim 1, further comprising a clock counter to receive a third clocking signal, the clock counter outputting the second clocking signal upon the occurrence of a predetermined number of third clocking signals.

3. (Original) The error rate counting system as in claim 1, further comprising a reset signal received by the at least one error rate count register to periodically reset the at least one error rate count register.

By need of counter

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not automatic  
the head  
not data register  
multiplex

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must find  
supplied  
in spec

4. (Original) The error rate counting system as in claim 1, wherein at least a portion of the stream of multiplexed error data is derived from a Cross-Interleaved Reed-Solomon Code. ✓

5. (Original) The error counting system as in claim 1, wherein the at least one error type is derived from C1 error detection. ✓

6. (Original) The error counting system as in claim 1, wherein the at least one error type is derived from C2 error detection. ✓

7. (Canceled) The error rate counting system as in claim 1, further comprising:  
 at least one threshold rate register storing a predetermined threshold rate value; and  
 at least one comparator coupled to the at least one error rate count register and the at least one threshold rate register, the at least one comparator performing a comparison and outputting at least one interrupt signal upon the at least one error rate count exceeding the predetermined threshold rate value, the at least one interrupt signal altering predetermined operations performed by the optical compact disk system.

8. (Currently Amended) An error rate counting system for providing information on the periodicity of errors occurring in an optical compact disk system used for reading data from an optical disk media, comprising:

a demultiplexer to receive a stream of multiplexed error data and output a stream of demultiplexed error data;

an error detector to identify the occurrence of an error type in the stream of ~~multiplexed~~ demultiplexed error data derived from a Cross-Interleaved Reed-Solomon Code;

an error rate counter corresponding to the error type, the error rate counter incremented responsive to the occurrence of the error type and upon the presence of a first clocking signal;

a clock counter to receive a second clocking signal, the clock counter outputting the ~~third~~ clocking signal upon the occurrence of a predetermined number of second clocking signals; and

an error rate count register coupled to the error rate counter, the error rate count register generating an average error rate upon the occurrence of the third clocking signal, the average error rate being proportional to a timing characteristic of the third clocking signal;

a comparator coupled to the error rate count register, the comparator performing a comparison and initiating a first remedial action when the average error rate is greater than zero but does not exceed a predetermined threshold rate value, and initiating a second remedial action when the average error rate exceeds the predetermined threshold rate value; wherein the first remedial action and second remedial action both attempt to reduce future data reading errors.

9. (Canceled) The error rate counting system as in claim 8, further comprising:  
a threshold rate register storing a predetermined threshold rate value;  
a comparator coupled to the error rate count register and the threshold rate register, the comparator performing a comparison and outputting an interrupt signal upon the error rate count exceeding the predetermined threshold rate value, the interrupt signal altering predetermined operations performed by the optical compact disk system.
10. (Currently Amended) A method for providing information on error rates occurring in an optical compact disk unit used for reading data from an optical disk media, comprising the steps of:  
receiving a stream of multiplexed error flag signals containing information corresponding to at least one error detection scheme;  
demultiplexing the stream of multiplexed error flag signals into a stream of demultiplexed error flag signals;  
detecting the occurrence of at least one error type in the stream of ~~multiplexed~~ demultiplexed error flag signals;  
counting at least one error rate for the at least one error type over a predetermined time period; ~~and~~  
~~storing at least one error rate count~~  
comparing the at least one error rate to a predetermined threshold rate value; and  
initiating a first remedial action when the at least one error rate is greater than zero but does not exceed the predetermined threshold rate value and a second remedial action when the at least one error rate exceeds the predetermined threshold rate value; wherein the first remedial action and second remedial action both attempt to reduce future data reading errors.

11. (Original) The method of claim 10, wherein the predetermined time period is derived from a time necessary to read a predetermined amount of data from the optical compact disk unit.

12. (Original) The method of claim 10, further comprising the step of identifying the at least one error type from a set of error types.

13. (Original) The method of claim 10, further comprising the step of periodically resetting the at least one error rate.

14. (Original) The method of claim 10, wherein at least a portion of the multiplexed error flag signals is derived from a Cross-Interleaved Reed-Solomon Code.

15. (Original) The method of claim 10, wherein the at least one error type is derived from C1 error detection.

16. (Original) The method of claim 10, wherein the at least one error type is derived from C2 error detection.

17. (Canceled) The method of claim 10, further comprising the steps of:  
 storing at least one preset threshold rate value;  
 comparing the at least one error rate to the at least one threshold rate value;  
 generating at least one interrupt signal upon the at least one error rate count exceeding at least one preset threshold value; and  
 altering selected operations performed by the optical compact disk unit.

18. (Previously Presented) An error rate counting system for an optical compact disk system, comprising:

a demultiplexer to receive a stream of multiplexed error signals from an optical disk media and output a stream of demultiplexed error signals;

an error detector to identify an occurrence of at least one error type in ~~one or more~~ the stream of demultiplexed error signals;

an error rate counter corresponding to the at least one error type, the error rate counter configured to generate an error rate count indicative of the rate of occurrence of at least one error type; and

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boundary

an error rate count register coupled to the error rate counter, the error rate count register configured to generate an average error rate based on the error rate count over a predetermined time period;

a comparator coupled to the error rate count register, the comparator performing a comparison and initiating a first remedial action when the average error rate is greater than zero but does not exceed a predetermined threshold rate value, and initiating a second remedial action when the average error rate exceeds the predetermined threshold rate value; wherein the first remedial action and second remedial action both attempt to reduce future data reading errors.

19. (Previously Presented) The error rate counting system of claim 18, wherein at least a portion of the stream of multiplexed error data is derived from a Cross-Interleaved Reed-Solomon Code.

20. (Canceled) The error rate counting system of claim 18, further comprising:  
a threshold rate register storing a predetermined threshold rate value; and  
a comparator coupled to the error rate count register and the threshold rate register, the comparator configured to perform a comparison and output an interrupt signal in response to the error rate count exceeding the predetermined threshold rate value, the interrupt signal altering predetermined operations performed by the optical compact disk system.

21. (New) The error rate counting system of claim 1, wherein the first remedial action is selected from the group consisting of changing at least one aspect of a servo control feedback in the optical compact disk system and reducing rotation speed of the optical disk media.

22. (New) The error rate counting system of claim 21, wherein the second remedial action comprises implementing a system optimization routine before reading data from the optical disk media.

23. (New) The error rate counting system of claim 8, wherein the first remedial action is selected from the group consisting of changing at least one aspect of a servo control feedback in the optical compact disk system and reducing rotation speed of the optical disk media.

24. (New) The error rate counting system of claim 23, wherein the second remedial action comprises implementing a system optimization routine before reading data from the optical disk media.

25. (New) The method of claim 10, wherein the first remedial action is selected from the group consisting of changing at least one aspect of a servo control feedback in the optical compact disk unit and reducing rotation speed of the optical disk media.

26. (New) The method of claim 25, wherein the second remedial action comprises implementing a system optimization routine before reading data from the optical disk media.

27. (New) The error rate counting system of claim 18, wherein the first remedial action is selected from the group consisting of changing at least one aspect of a servo control feedback in the optical compact disk system and reducing rotation speed of the optical disk media.

28. (New) The error rate counting system of claim 27, wherein the second remedial action comprises implementing a system optimization routine before reading data from the optical disk media.

29. (New) The error rate counting system of claim 18, wherein the predetermined time period is derived from a time necessary to read a predetermined amount of data from the optical compact disk unit.